Final

Amended Parcel B Record of Decision

Hunters Point Shipyard
San Francisco, California

January 14, 2009

Prepared for:
Base Realignment and Closure
Program Management Office West
San Diego, California

Prepared by:
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Prepared under:
Naval Facilities Engineering Command
Contract Number N62473-07-D-3213
Delivery Order 0019

CHAD.3213.0019.0014

TABLE A.4-1

REMEDIATION GOALS

Radionuclide	Surfaces (dpm/100 cm^2)		Soil[c] (pCi/g)	
	Equipment, Waste[a]	Structures[b]	Outdoor Worker[d]	Residential[d]
cesium-137	5,000	5,000	0.113	0.113
cobalt-60	5,000	5,000	0.0602	0.0361
plutonium-239	100	24.7	14.0	2.59
radium-226	100	100	1.0[e]	1.0[e]
strontium-90	1,000	1,000	10.8	0.331
thorium-232	1,000	36.5	2.7	1.69
hydrogen-3	5,000	5,000	4.23	2.28
uranium-235	5,000	488	0.398	0.195

Notes:

[a] These limits are based on AEC *Regulatory Guide 1.86* (1974). Limits for removable surface activity are 20 percent of these values.

[b] These limits are based on 25 mrem/y, using Decontamination and Decommissioning Version 2 or *Regulatory Guide 1.86*, whichever is lower.

[c] EPA PRGs for two future-use scenarios.

[d] The on-site and off-site laboratory will ensure that the MDA meets the listed release criteria by increasing sample size or counting time as necessary. The MDA is defined as the lowest net response level, in counts, that can be seen with a fixed level of certainty, customarily 95 percent. The MDA is calculated per sample by considering background counts, amount of sample used, and counting time.

[e] Limit is 1 pCi/g above background; not to exceed 2 pCi/g total, per agreement with EPA.

Abbreviations and Acronyms:

AEC – Atomic Energy Commission
cm^2 – square centimeter
dpm – disintegration per minute
EPA – U.S. Environmental Protection Agency
MDA – minimum detectable activity
mrem/y – millirem per year
pCi/g – picocurie per gram
PRG – Preliminary Remediation Goal

TABLE 7-3: RADIOLOGICAL RISK RESULTS

Parcel B Amended Record of Decision, Hunters Point Shipyard, San Francisco, California

RESRAD-BUILD Results

Impacted Building	Radiological Risk[a,b]	Dose (millirem/year)
Building 103	1.48×10^{-6}	7.02
Building 113	1.48×10^{-6}	7.02
Building 113A	1.60×10^{-6}	1.45
Building 130	1.60×10^{-6}	1.45
Building 140	1.44×10^{-6}	5.43
Building 146	1.16×10^{-6}	1.20

Notes:

a Total risk and dose is equivalent to incremental risk and dose. Actual calculated dose and risk will be based on field measurements from the final status survey results. Incremental risk does not include risk from chemicals present at or below ambient levels; total risk includes risk from all chemical concentrations.

b Total excess lifetime cancer risk

RESRAD Results

Total Dose and Risk[a]

Impacted Soil Area	Radiological Risk[b]	Dose (millirem/year)
Building 142 Site	6.39×10^{-5}	3.48
Building 157 Site	8.90×10^{-5}	4.86
IR-07	4.51×10^{-5}	3.27
IR-18	4.51×10^{-5}	3.27

Incremental Dose and Risk[a]

Impacted Soil Area	Radiological Risk[b]	Dose (millirem/year)
Building 142 Site	4.35×10^{-5}	2.39
Building 157 Site	5.97×10^{-5}	3.25
IR-07	3.02×10^{-5}	2.26
IR-18	3.02×10^{-5}	2.26

Notes:

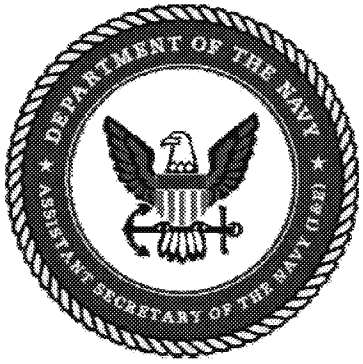
a Actual calculated dose and risk will be based on field measurements from the final status survey results.

b Total excess lifetime cancer risk

Risk calculations for soil areas are based only on surface characterization and not on subsurface data. Risks consider only future risk based on radionuclides of concern at the release criteria. Risks will ultimately be based on the actual surface readings from the final status surveys.

Building 114 is not included because the site of former Building 114 has previously been surveyed and the final status survey documentation is pending submittal. Preliminarily, the site has been identified for "free release", and a request for concurrence will be submitted concurrently with the final status survey document.

IR Installation Restoration
RESRAD Residual radioactive (model)
RESRAD-BUILD Residual radioactive–building (model)



Base Realignment and Closure
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CONTRACT NO. N62473-06-D-2201
CTO NO. 0006

FINAL

RADIOLOGICAL ADDENDUM TO THE REVISED FEASIBILITY STUDY FOR PARCEL D

April 11, 2008

DCN: ECSD-2201-0006-0078

PARCEL D, HUNTERS POINT SHIPYARD
SAN FRANCISCO, CALIFORNIA

with the source or transport medium does not occur, then the exposure pathway is incomplete and is not quantitatively evaluated for risk. Similarly, if human contact with an exposure medium is not possible, the exposure pathway is considered incomplete and is not evaluated.

For the potentially contaminated structure surfaces the exposure pathways are external radiation from contaminated surfaces and inhalation of re-suspended contaminated dust.

The exposure pathways for the impacted soils at Parcel D present a more complicated analysis. The complete pathways, based on the four criteria listed above, are external radiation, soil ingestion, inhalation, and drinking water ingestion (e.g., groundwater).

3.3 REMEDIATION GOALS

Remediation goals (RGs) are selected to achieve the RAOs. Table 3-2 identifies the RG for each ROC. The soil RGs were derived from the EPA preliminary remediation goals (PRGs) based on an increased lifetime cancer risk range of 10^{-6} to 10^{-4} for future use scenarios except for ^{226}Ra, which is based on an agreement with EPA (DON, 2006). The RGs for building and equipment surfaces were based on the AEC Reg Guide 1.86 to meet the 25 millirem per year (mrem/y) dose limits of the Nuclear Regulatory Commission. The water RGs were derived from *Radionuclides Notice of Data Availability Technical Document*, (EPA, 2000) by comparing the limits from two criteria and using the most conservative limit.

3.3.1 Constituents of Potential Concern

The ROCs, ^{137}Cs, ^{60}Co, ^{3}H, ^{232}Th, ^{235}U, ^{239}Pu, ^{226}Ra, and ^{90}Sr, have been associated with Parcel D radiologically-impacted buildings (NAVSEA, 2004). The ROCs, ^{137}Cs, ^{232}Th, ^{239}Pu, ^{226}Ra, and ^{90}Sr have been associated with Parcel D radiologically-impacted soils (NAVSEA, 2004). This information is summarized in Table 2-2.

3.3.2 Media of Concern

The media of concern are the remaining radiologically-impacted structures (274, 351, 351A, 364, 365, 366/351B, 401, 408, 411, 813, and 819); soils of former building sites (313, 313A, 317, 322 and 383 area); soils in outdoor areas (Gun Mole Pier and NRDL Site on Mahan Street); trenches resulting from sewer and storm line removal; soils of remediated storm drains and sanitary sewers; and groundwater.

3.4 RISK EVALUATION BY REDEVELOPMENT BLOCK

The following sections list the redevelopment blocks and associated evaluation scenario. Figure 2-3 shows the redevelopment blocks, impacted areas and structures, and planned reuses. The radiologically-impacted sites in Parcel D will be identified in each redevelopment block section. Radiologically-impacted sewer and storm drains are present throughout Parcel D and will not be individually listed for a particular development block. The residential scenario provided the

TABLE 3-2

REMEDIATION GOALS

Radionuclide	Surfaces [f] (dpm/100 cm^2)		Soil [c f] (pCi/g)		Water [f] (pCi./L)
	Equipment, Waste[a] (dpm/100 cm^2)	Structures[b] (dpm/100 cm^2)	Construction Worker	Residential	
cesium-137	5,000	5,000	0.113	0.113	119
cobalt-60	5,000	5,000	0.0602	0.0361	100
plutonium-239	100	100	14.0	2.59	15
radium-226	100	100	1.0[d]	1.0[d]	5.0[e]
strontium-90	1,000	1,000	10.8	0.331	8
thorium-232	1,000	36.5	19.0	1.69	15
hydrogen-3	5,000	5,000	4.23	2.28	20,000
uranium-235	5,000	488	0.398	0.195	30

Notes:

[a] These limits are based on AEC *Regulatory Guide 1.86* (1974). Limits for removable surface activity are 20 percent of these values.

[b] These limits are based on 25 mrem/y, using DandD Version 2 or *Regulatory Guide 1.86*, whichever is lower.

[c] EPA PRGs for two future-use scenarios.

[d] Limit is 1 pCi/g above background; not to exceed 2 pCi/g total, per agreement with EPA.

[e] Limit is for total radium concentration.

[f] Taken from *Revised Final Basewide Radiological Removal Action, Action Memorandum.* Hunters Point Shipyard, San Francisco, California. February 14.

Abbreviations and Acronyms:

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EPA – U.S. Environmental Protection Agency
MDA – minimum detectable activity
mrem/y – millirem per year
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PRG – Preliminary Remediation Goal

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strontium-90	1,000	1,000	10.8	0.331
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Notes:

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PRG – Preliminary Remediation Goal

COMPREHENSIVE LONG-TERM ENVIRONMENTAL ACTION NAVY (CLEAN II)
Northern and Central California, Nevada, and Utah
Contract No. N62474-94-D-7609

Contract Task Order No. 011

Prepared for

U.S. DEPARTMENT OF THE NAVY
Naval Facilities Engineering Command
Engineering Field Activity West
San Bruno, California

PARCEL C REMEDIAL INVESTIGATION DRAFT FINAL REPORT HUNTERS POINT SHIPYARD SAN FRANCISCO, CALIFORNIA

March 13, 1997

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TABLE ES-1
HUMAN HEALTH RISK ASSESSMENT RESULTS AND RECOMMENDATIONS FOR SOIL
HUNTERS POINT SHIPYARD, PARCEL C REMEDIAL INVESTIGATION

Site No.	Cancer Risk Range[a]	Cancer Risk[b] ≥ 1×10^{-6}	HI ≥ 1[c]	Lead ≥ Level of Concern[d]	Ecological Risk	Recommended for FS Evaluation[e]					
						Metals	VOCs	SVOCs	Pesticides	PCBs	TPHs
IR-27	Future Residential: 1×10^{-5} to 2×10^{-5}	Yes	Yes	No	No terrestrial environmental/ ecological risk for soil	X		X			X
	Future Industrial: 9×10^{-7} to 2×10^{-6}	Yes	No	No							
IR-28	Future Residential: 1×10^{-8} to 6×10^{-2}	Yes	Yes	Yes	No terrestrial environmental/ ecological risk for soil	X	X	X	X	X	X
	Future Industrial: 2×10^{-10} to 7×10^{-5}	Yes	No	Yes							
IR-29	Future Residential: 1×10^{-8} to 9×10^{-3}	Yes	Yes	Yes	No terrestrial environmental/ ecological risk for soil	X		X		X	X
	Future Industrial: 1×10^{-9} to 2×10^{-4}	Yes	Yes	Yes							
IR-30	Future Residential: 2×10^{-7} to 2×10^{-4}	Yes	Yes	Yes	No terrestrial environmental/ ecological risk for soil	X				X	X
	Future Industrial: 8×10^{-8} to 7×10^{-6}	Yes	No	No							
IR-45*	(f)	(f)	(f)	(f)	No terrestrial environmental/ ecological risk for soil	X		X			
IR-49*	(f)	(f)	(f)	(f)	No terrestrial environmental/ ecological risk for soil	X		X		X	X
IR-50* (Storm Drain)	(f)	(f)	(f)	(f)	No terrestrial environmental/ ecological risk for soil	X					

TABLE ES-1 (Continued)
HUMAN HEALTH RISK ASSESSMENT RESULTS AND RECOMMENDATIONS FOR SOIL
HUNTERS POINT SHIPYARD, PARCEL C REMEDIAL INVESTIGATION

Site No.	Cancer Risk Range[a]	Cancer Risk[b] ≥ 1 x 10^{-6}	HI ≥ 1[c]	Lead ≥ Level of Concern[d]	Ecological Risk	Recommended for FS Evaluation[e]					
						Metals	VOCs	SVOCs	Pesticides	PCBs	TPHs
IR-50* (Sanitary Sewer)	(f)	(f)	(f)	(f)	No terrestrial environmental/ ecological risk for soil	X					
IR-51*	(f)	(f)	(f)	(f)	No terrestrial environmental/ ecological risk for soil	X		X		X	X
IR-57	Future Residential: 6 x 10^{-8} to 4 x 10^{-4}	Yes	Yes	Yes	No terrestrial environmental/ ecological risk for soil	X		X			X
	Future Industrial: 4 x 10^{-8} to 4 x 10^{-5}	Yes	No	No							
IR-58	Future Residential: 8 x 10^{-7} to 9 x 10^{-4}	Yes	Yes	Yes	No terrestrial environmental/ ecological risk for soil	X		X	X	X	X
	Future Industrial: 2 x 10^{-8} to 1 x 10^{-5}	Yes	No	No							
IR-63	Future Residential: 5 x 10^{-5} to 7 x 10^{-5}	Yes	Yes	No	No terrestrial environmental/ ecological risk for soil	X					
	Future Industrial: 1 x 10^{-6} to 5 x 10^{-6}	Yes	No	No							
IR-64	Future Residential: 7 x 10^{-8} to 2 x 10^{-4}	Yes	Yes	No	No terrestrial environmental/ ecological risk for soil	X					
	Future Industrial: 1 x 10^{-6} to 2 x 10^{-5}	Yes	No	No							

Final

Feasibility Study Report for Parcel C

Hunters Point Shipyard
San Francisco, California

July 31, 2008

Prepared for:
Base Realignment and Closure
Program Management Office West
San Diego, California

Prepared by:
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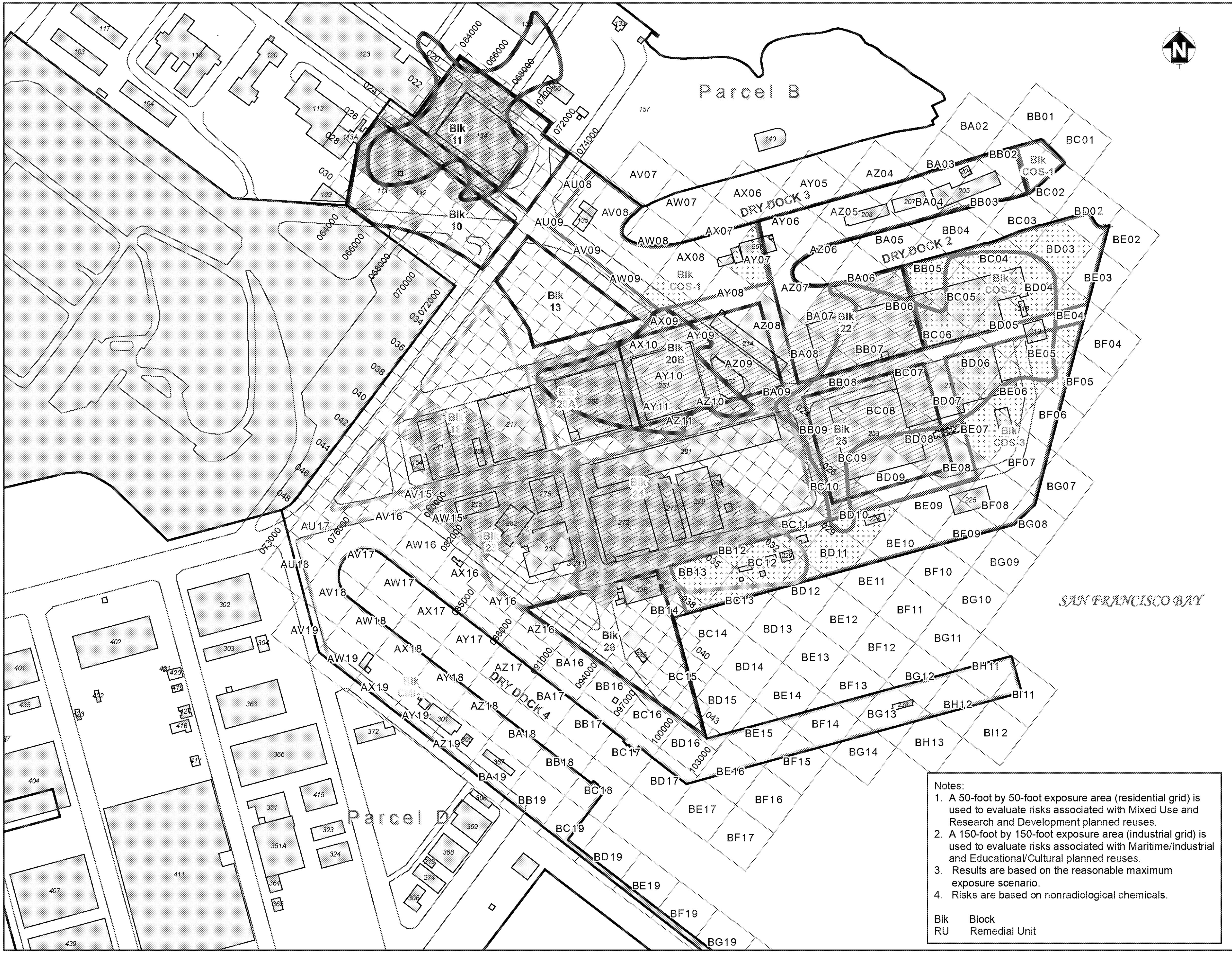
Prepared under:
Naval Facilities Engineering Command
Contract Number N68711-03-D-5104
Contract Task Order 018

SULT.5104.0018.0004



RU-C1 Risk Plume
RU-C2 Risk Plume
RU-C4 Risk Plume
RU-C5 Risk Plume
Residential Cancer Risk > 1E-06
Industrial Cancer Risk > 1E-06
Cancer Risk ≤ 1E-06
Highest Segregated Hazard Index > 1
Recreational Scenario Not Evaluated for Vapor Intrusion
No Data

Parcel C Redevelopment Blocks:

Research and Development
Mixed Use
Open Space
Maritime/Industrial
Educational/Cultural
Parcel Boundary
Non-Navy Property
253 Building
Road

0 300 600
Scale in Feet

SulTech

Notes:
1. A 50-foot by 50-foot exposure area (residential grid) is used to evaluate risks associated with Mixed Use and Research and Development planned reuses.
2. A 150-foot by 150-foot exposure area (industrial grid) is used to evaluate risks associated with Maritime/Industrial and Educational/Cultural planned reuses.
3. Results are based on the reasonable maximum exposure scenario.
4. Risks are based on nonradiological chemicals.

Blk Block
RU Remedial Unit

Hunters Point Shipyard, San Francisco, California
U.S. Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 3-8
GROUNDWATER VAPOR INTRUSION RISKS IN THE A-AQUIFER BASED ON PLANNED REUSE
Feasibility Study Report for Parcel C

07/29/2008 O:\Hunters Point\Projects\Parcel_C\Parcel C FS\risk\May2007\Fig3-8_VaporIntrusionReuse.mxd TtEMI-DN Kurt.Cholak

TABLE 3-3: TOTAL RISK - SUMMARY OF CANCER RISKS AND HAZARD INDICES BY PLANNED REUSE, SUBSURFACE SOIL (0 TO 10 FEET BGS)

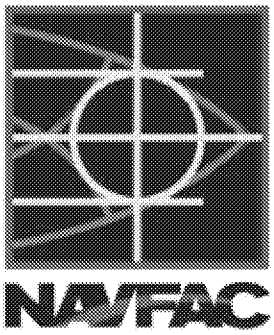
Feasibility Study Report for Parcel C, Hunters Point Shipyard, San Francisco, California

Redevelopment Block	Planned Reuse	Grid Number	RME Cancer Risk	RME Hazard Index	RME Segregated Hazard Index
10	MU	063024	**9E-05**	6E+00	**2E+00**
10	MU	063027	**9E-05**	8E+00	**3E+00**
10	MU	063028	--	<1	<1
10	MU	064024	**2E-04**	9E+00	**4E+00**
10	MU	064026	3E-07	<1	<1
10	MU	064027	7E-08	<1	<1
10	MU	064028	**1E-05**	2E+00	<1
10	MU	064029	**5E-05**	2E+00	<1
10	MU	065026	**1E-04**	6E+00	**2E+00**
10	MU	065027	**4E-06**	<1	<1
10	MU	065028	**1E-04**	1E+01	**5E+00**
10	MU	065029	**6E-05**	1E+01	**6E+00**
10	MU	066025	**9E-05**	2E+00	<1
10	MU	066026	**1E-04**	1E+01	**4E+00**
10	MU	066027	**2E-04**	5E+00	<1
10	MU	066028	**9E-05**	1E+01	**7E+00**
10	MU	067025	**9E-05**	1E+01	**3E+00**
10	MU	067026	**2E-04**	7E+00	**2E+00**
10	MU	067027	**7E-05**	1E+01	**6E+00**
10	MU	067028	**9E-05**	1E+01	**5E+00**
10	MU	068025	**9E-05**	1E+01	**4E+00**
10	MU	068026	**2E-04**	1E+01	**7E+00**
10	MU	068027	**8E-05**	1E+01	**6E+00**
10	MU	069025	**9E-05**	8E+00	**2E+00**
10	MU	069026	**5E-05**	2E+01	**9E+00**
10	MU	069027	**6E-05**	1E+01	**5E+00**
10	MU	070025	**1E-04**	2E+01	**6E+00**
10	MU	070026	3E-07	1E+01	**6E+00**
11	MU	064020	4E-08	<1	<1
11	MU	064023	**9E-05**	5E+00	<1
11	MU	065020	5E-07	<1	<1
11	MU	065021	**1E-04**	1E+01	**4E+00**
11	MU	065022	**3E-04**	3E+00	<1
11	MU	065023	**1E-04**	3E+00	<1
11	MU	065024	**1E-04**	7E+00	**2E+00**
11	MU	066020	**9E-05**	2E+00	<1
11	MU	066021	1E-06	2E+00	<1
11	MU	066022	**2E-04**	1E+01	**3E+00**
11	MU	066023	**1E-04**	1E+01	**4E+00**
11	MU	066024	**1E-04**	6E+00	**5E+00**
11	MU	067019	**4E-06**	<1	<1
11	MU	067020	**9E-05**	6E+00	**5E+00**
11	MU	067021	**7E-06**	<1	<1

TABLE 3-3: TOTAL RISK - SUMMARY OF CANCER RISKS AND HAZARD INDICES BY PLANNED REUSE, SUBSURFACE SOIL (0 TO 10 FEET BGS) (CONTINUED)

Feasibility Study Report for Parcel C, Hunters Point Shipyard, San Francisco, California

Redevelopment Block	Planned Reuse	Grid Number	RME Cancer Risk	RME Hazard Index	RME Segregated Hazard Index
11	MU	067022	**2E-04**	6E+00	<1
11	MU	067023	2E-07	2E+00	**2E+00**
11	MU	067024	**1E-04**	1E+01	**3E+00**
11	MU	068019	**7E-05**	5E+00	**2E+00**
11	MU	068020	**9E-05**	4E+00	**3E+00**
11	MU	068022	**8E-06**	<1	<1
11	MU	068024	**1E-04**	9E+00	**3E+00**
11	MU	069022	**6E-05**	1E+01	**6E+00**
11	MU	069023	3E-08	<1	<1
11	MU	069024	**3E-05**	1E+01	**7E+00**
11	MU	070024	**1E-04**	7E+00	**2E+00**
11	MU	071019	1E-07	7E+00	**2E+00**
11	MU	071024	**1E-04**	6E+00	<1
13	MU	075027	**1E-04**	1E+01	**6E+00**
13	MU	077028	**6E-05**	1E+01	**3E+00**
13	MU	078027	--	<1	<1
13	MU	078028	**5E-05**	4E+00	<1
13	MU	078029	--	<1	<1
13	MU	079027	**8E-05**	7E+00	**4E+00**
13	MU	079029	**4E-05**	1E+01	**8E+00**
13	MU	079030	**3E-05**	2E+01	**5E+00**
13	MU	080025	**1E-04**	6E+00	**3E+00**
13	MU	080026	**9E-05**	1E+01	**4E+00**
13	MU	080029	4E-09	<1	<1
13	MU	081027	--	--[a]	--[a]
13	MU	082026	**2E-04**	7E+00	**2E+00**
13	MU	082027	**1E-04**	8E+00	**2E+00**
18	RD	075039	4E-08	<1	<1
18	RD	075043	**2E-04**	8E+00	**2E+00**
18	RD	075044	2E-08	3E+00	<1
18	RD	076034	**8E-05**	7E+00	**2E+00**
18	RD	076038	**2E-04**	1E+01	**3E+00**
18	RD	076039	**1E-05**	<1	<1
18	RD	076040	9E-07	<1	<1
18	RD	076043	**8E-05**	5E+00	<1
18	RD	077035	**6E-05**	1E+01	**3E+00**
18	RD	077037	**3E-04**	8E+00	**2E+00**
18	RD	077038	**2E-04**	1E+01	**3E+00**
18	RD	077039	**1E-04**	7E+00	**2E+00**
18	RD	077040	**2E-04**	2E+01	**1E+01**
18	RD	078032	**1E-05**	1E+01	**6E+00**
18	RD	078036	**4E-04**	1E+01	**5E+00**
18	RD	078037	**2E-04**	1E+01	**4E+00**



Base Realignment and Closure
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108-4310

CONTRACT NO. N62473-10-D-0809
CTO NO. 0007

FINAL

FINAL STATUS SURVEY RESULTS

March 2013

DCN: RMAC-0809-0007-0100

FORMER BUILDING 507 SITE
HUNTERS POINT NAVAL SHIPYARD
SAN FRANCISCO, CALIFORNIA

To provide the best possible estimation of dose and risk for the residual activity at the Former Building 507 Site, the DON used the most current version of RESRAD for calculations.

3.2.3 Wide-Area Derived Concentration Guideline Level

The wide-area DCGL ($DCGL_W$) is the average concentration across the site that is equivalent to the release criterion, based on dose or risk. The $DCGL_W$ for each ROC is presented in Table 3-1.

TABLE 3-1

RELEASE CRITERIA FOR RADIONUCLIDES OF CONCERN

Radionuclide	Structures Total Surface Activity Release Criteria (dpm/100 cm^2)	Structures Removable Surface Activity Release Criteria (dpm/100 cm^2)	Soils Release Criteria (pCi/g)
Cesium-137	5,000	1,000	0.113
Plutonium-239	100	20	2.59
Radium-226	100	20	1.0[a]
Strontium-90	1,000	200	0.331

Notes:
[a] Limit is 1 pCi/g above background, per agreement with EPA.

Abbreviations and Acronyms:
cm^2 – square centimeter
dpm – disintegrations per minute
EPA – U.S. Environmental Protection Agency
pCi/g – picocuries per gram

3.3 DIRECT APPLICATION OF DCGLS

In the simplest case, the DCGLs may be applied directly to survey data to demonstrate compliance. This involves assessing the activity levels and comparing measured values to the appropriate DCGL.

3.4 INVESTIGATION LEVELS

Investigation levels are specific levels of radioactivity used to indicate when additional investigation may be necessary. Investigation levels also serve as a quality control check. For example, in addition to indicating potential contamination, a measurement that exceeds the investigation level may indicate that the survey unit was improperly classified or may indicate a failing instrument.

When determining an investigation level using a statistically based parameter (e.g., standard deviation), the following may be considered: survey objectives, underlying radionuclide

3.2.1 Use of DCGLs for Sites with Multiple Radionuclides

Typically, each radionuclide DCGL corresponds to the release criterion (e.g., regulatory limit in terms of dose or risk). However, in the presence of multiple radionuclides, the total of the DCGLs for all radionuclides would exceed the release criterion. In this case, the individual DCGLs need to be adjusted to account for the presence of multiple radionuclides contributing to the total dose. One method for adjusting the DCGLs includes the use of the unity rule and development of a gross activity DCGL for surface activity to adjust the individual radionuclide DCGLs.

The unity rule, represented in the expression below, is satisfied when radionuclide mixtures yield a combined fractional concentration limit that is less than or equal to 1:

$$\frac{C_1}{DCGL_1}+\frac{C_2}{DCGL_2}+\ldots\frac{C_i}{DCGL_i}\leq 1$$

Where:

C_i = concentration of radionuclide "*i*"
$DCGL_i$ = DCGL of radionuclide "*i*"

In the event of a mean concentration less than zero, the value used in calculations was set at zero. The following equation, using the mean concentrations of 0.007 pCi/g for ^{137}Cs, 0.000 pCi/g for ^{239}Pu, 0.425 pCi/g for ^{226}Ra, and 0.000 pCi/g for ^{90}Sr from Survey Unit 1, demonstrates that the unity rule is satisfied:

$$\frac{0.007\ pCi/g}{0.113\ pCi/g}\,{}^{137}Cs+\frac{0.000\ pCi/g}{2.59\ pCi/g}\,{}^{239}Pu+\frac{0.425\ pCi/g}{1.375\ pCi/g}\,{}^{226}Ra+\frac{0.000\ pCi/g}{0.331\ pCi/g}\,{}^{90}Sr=0.375$$

3.2.2 DCGL Modeling

Radionuclide-specific release criteria, referred to as DCGLs, were obtained from the AM and were then modeled using RESRAD Version 6.3 (a previous version) based on the 25 mrem/y total effective dose equivalent or were otherwise risk-based; the final doses using the risk-based release criterion for HPNS are all less than this 25 mrem/y release criterion. Following discussions with the EPA and as a matter of policy at HPNS, the DON and the Radiological Affairs Support Office (RASO) will also ensure that the resulting ELCR falls within the EPA risk management range of 10^{-6} to 10^{-4} prior to recommending a site or building for unrestricted release. This ELCR is more conservative than the NRC dose-based unrestricted release criterion of 25 mrem/y. Additionally, lead-210 was modeled at secular equilibrium with ^{226}Ra activity to ensure that all possible exposures were considered. The original model used in the AM for the critical group was based on default RESRAD Version 6.3 parameters.

Final

Addendum 1 to the Remedial Action Completion Report for Soil Hotspot Locations at Parcels B, D-1, and G and Soil Stockpiles at Parcel D-1 and G

Hunters Point Naval Shipyard
San Francisco, California

April 2014

Prepared for:
Department of the Navy
Base Realignment and Closure
Program Management Office West
San Diego, California

Prepared by:
Engineering/Remediation Resources Group, Inc.
115 Sansome Street, Suite 200
San Francisco, California 94104

Prepared under:
Naval Facilities Engineering Command Southwest
Contract No. N62473-09-D-2608
Contract Task Order 0004
Document Control No. ERRG-2608-0004-0004.A1/F

	DIRT SHOP, INC. - LOAD & WEIGHT SPREADSHEET				
Project:	US Navy Hunters Point Naval Shipyard - Morrell St. @ E. St. (parcel D-1)				
Client:	ERRG				
Service:	Transport & disposal non-hazardous soil w/ non-friable serpentine to Hay Rd. Landfill				
			US Navy	Waste Weight	Waste Weight
Load #	Date of Offhaul	Manifest #	Tracking #	per load (in tons)	per day (in tons)
1	8/20/2013	002978	14818	33.95	
2	8/20/2013	002979	14819	28.73	
3	8/20/2013	002980	14820	16.72	
4	8/20/2013	002981	14821	16.98	
5	8/20/2013	002982	14822	29.25	
6	8/20/2013	002983	14823	25.47	**151.1**
	Total tons of non-haz soil w/ non-friable serp. offhauled 8/20/13:			**151.1**	
Service:	Transport and disposal non-hazardous general debris to Hay Rd. Landfill				
			US Navy	Waste Weight	Waste Weight
Load #	Date of Offhaul	Manifest #	Tracking #	per load (in tons)	per day (in tons)
1	8/20/2013	002989	14829	13.4	**13.4**
	Total tons of non-haz general debris offhauled 8/20/13:			**13.4**	

9F-04311

Tracking # H 14818

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number CA0001019694	2. Page 1 of 1	3. Emergency Response Phone 415-552-1818	4. Waste Tracking Number 002978

GENERATOR

5. Generator's Name and Mailing Address
US Navy BRAC PMO-W (Hunters Point)
1 Avenue of the Palms, Ste. 161
San Francisco, CA 94130 USA

Generator's Site Address (if different than mailing address)
Hunters Pt Naval Shipyard, Morrell St @ E St
San Francisco, CA 94102 USA
(ERRS D-1)

Generator's Phone: 415-743-4713

6. Transporter 1 Company Name: Sanchez Transport Inc — U.S. EPA ID Number: CAR000175828

7. Transporter 2 Company Name: — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Recology Hay Road Landfill
6426 Hay Rd.
Vacaville, CA 95687 USA
U.S. EPA ID Number: CAD982042475

Facility's Phone: 707-678-4718

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1. Non-hazardous waste, solid (soil with Chromium and Nickel)	1	DT	16	Y
2.				
3.				
4.				

13. Special Handling Instructions and Additional Information
Generator contact: D. DeLong, E CIV OASN(EI&E), BRAC PMO West Douglas.delong@navy.mil Tracking #:
Wear proper PPE when handling waste. Wt tix and certs of disposal req. by Generator. Box #3-18 Trlng 24/7 contact #.
Hay Rd. Job #: J#5848

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Doug DeLong — Signature: [signature] — Month 8 Day 20 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Gonzalo Sanchez — Signature: [signature] — Month 8 Day 20 Year 13
Transporter 2 Printed/Typed Name: — Signature: — Month Day Year

DESIGNATED FACILITY

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a
Printed/Typed Name: Terr. Wilson — Signature: [signature] — Month 8 Day 20 Year 13

169-BLC-O 6 10498 (Rev. 8/06) COPY

RECOLOGY HAY ROAD
RECOLOGY HAY ROAD
6426 Hay Road Vacaville, CA 95687
Phone: (707)-678-4718
Truck: 9F04371
Customer: 52340/DIRT SHOP, INC.

Profile: 5840/US Navy Brac, PMO-W Hunt

Ticket: 1239146
Date: 8/20/2013
Time: 11:18:28 - 11:33:19

Gross: 98560 LBS Scale
Tare: 30660 LBS Scale
Net: 67900 LBS
Scale: H2

Origin	Materials & Services	Quantity
SFR/San Francisco	Shllc/Soil Contaminated	33.95 Tons

Recology™
WASTE ZERO

Gonzalo Sanchez

Terri Wilson

WMSTR4-LO 9/09 Printed on recycled paper

1299 / 4819

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
CA0001019664	1	415-562-1818	002979

GENERATOR

5. Generator's Name and Mailing Address

US Navy BRAC PMO-W (Hunters Point)
1 Avenue of the Palms, Ste. 161
San Francisco, CA 94130 USA

Generator's Site Address (if different than mailing address)

Hunters Pt Naval Shipyard, Morrell St @ E St
San Francisco, CA 94102 USA

Generator's Phone: 415-743-4713

6. Transporter 1 Company Name: 18 Trucking — U.S. EPA ID Number: CAR000184788

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address

Recology Hay Road Landfill
6426 Hay Rd.
Vacaville, CA 95687 USA

U.S. EPA ID Number: CAD982042475

Facility's Phone: 707-678-4716

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-hazardous waste, solid (soil with Chromium and Nickel)	1	DT	18	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Generator contact: D. DeLong, E CIV OASN(EI&E), BRAC PMO West Douglas.delong@navy.mil Tracking #:
Wear proper PPE when handling waste. Wt tix and certs of disposal req. by Generator. Box #3-18 Trlng 24/7 contact #.
Hay Rd. Job #: J#5848

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Doug DeLong — Signature: [signature] — Month: 8 Day: 20 Year: 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: James Crook — Signature: [signature] — Month: 8 Day: 20 Year: 13

Transporter 2 Printed/Typed Name — Signature — Month: Day: Year:

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month: Day: Year:

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in item 17a

Printed/Typed Name: Jon Wilson — Signature: [signature] — Month: 8 Day: 20 Year: 13

169-BLC-O 6 10498 (Rev. 8/06) TRANSPORTER #1

RECOLOGY HAY ROAD
RECOLOGY HAY ROAD
6426 Hay Road Vacaville, CA 95687
Phone: (707)-678-4718
Truck: 9249
Customer: 52340/DIRT SHOP, INC. License: 236

Profile: 5040/US Navy Brac, PMO-W Hunt

Ticket: 1239140
Date: 8/20/2013
Time: 11:11:53 - 11:24:52

Gross: 91400 LBS Scale
Tare: 33940 LBS Scale
Net: 57460 LBS
Scale: H2

Origin	Materials & Services	Quantity
SFR/San Francisco	SOILC/Soils Contaminated	28.73 Tons

Recology™
WASTE ZERO

8.20.13

Joseph Snyder

H 14820

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
CA0001019694	1	415-562-1816	002980

GENERATOR

5. Generator's Name and Mailing Address

US Navy BRAC PMO-W (Hunters Point)
1 Avenue of the Palms, Ste. 161
San Francisco, CA 94130 USA

Generator's Site Address (if different than mailing address)

Hunters Pt Naval Shipyard, Morrell St @ E St
San Francisco, CA 94102 USA

Generator's Phone: 415-743-4713

6. Transporter 1 Company Name: IB Trucking — U.S. EPA ID Number: CAR000184786

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address

Recology Hay Road Landfill
6426 Hay Rd.
Vacaville, CA 95687 USA

U.S. EPA ID Number: CAD982042475

Facility's Phone: 707-678-4718

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-hazardous waste, solid (soil with Chromium and Nickel)	1	DT	16	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Generator contact: D. DeLong, E CIV OASN(EI&E), BRAC PMO West Douglas.delong@navy.mil Tracking #:
Wear proper PPE when handling waste. Wt tix and certs of disposal req. by Generator. Box #3-18 Trfing 24/7 contact #.
Hay Rd. Job #: J#5848

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Doug DeLong — Signature — Month 8 Day 20 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Darren — Signature — Month 8 Day 20 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month 8 Day 20 Year 13

DIET 16.72 + 21

169-BLC-O 6 10498 (Rev. 8/06) TRANSPORTER #1

RECOLOGY HAY ROAD
RECOLOGY HAY ROAD
6426 Hay Road Vacaville, CA 95687
Phone: (707)-678-4718
Trucks: 5463
Customers: 52340/DIRT SHOP, INC.

Profiles: 5848/US Navy Erac, PMO-W Hunt

Ticket: 1239096
Date: 8/20/2013
Time: 10:28:34 - 10:28:50

Gross: 64540 LBS Scale
Tare: 31100 LBS PreTare
Net: 33440 LBS
Scale: H1

Origin	Materials & Services	Quantity
SFR/San Francisco	SOIL/Soil Contaminated	16.72 Tons

Recology
WASTE ZERO

Joseph Snyder

H 14821

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	CA0001019694	1	415-552-1818	002981

GENERATOR

5. Generator's Name and Mailing Address

US Navy BRAC PMO-W (Hunters Point)
1 Avenue of the Palms, Ste. 161
San Francisco, CA 94130 USA

Generator's Site Address (if different than mailing address)

Hunters Pt Naval Shipyard, Morrell St @ E St
San Francisco, CA 94102 USA

Generator's Phone: 415-743-4713

6. Transporter 1 Company Name: 18-TRUCKING P.O. BOX 88116 SAN FRANCISCO CAL. TRK# 198 PLA# 9D76902 — U.S. EPA ID Number: CAR000184786

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address

Recology Hay Road Landfill
6426 Hay Rd.
Vacaville, CA 95687 USA

U.S. EPA ID Number: CAD982042475

Facility's Phone: 707-678-4718

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-hazardous waste, solid (soil with Chromium and Nickel)	1	DT	16	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

Generator contact: D. DeLong, E CIV OASN(EI&E), BRAC PMO West Douglas.delong@navy.mil Tracking #:
Wear proper PPE when handling waste. Wt tix and certs of disposal req. by Generator. Box #3-18 Trking 24/7 contact #.
Hay Rd. Job #: J#5848

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Doug DeLong — Signature — Month 08 Day 20 Year 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: 18-TRUCKING E Frain. — Signature — Month 08 Day 20 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month 8 Day 20 Year 13

169-BLC-O 6 10498 (Rev. 8/06) TRANSPORTER #1

ED_004747_00001814-00026

Ticket: 1239095
Date: 8/20/2013
Time: 10:27:12 - 10:27:18

RECOLOGY HAY ROAD
RECOLOGY HAY ROAD
6426 Hay Road Vacaville, CA 95687
Phone: (707)-678-4718
Truck: 3993
Customer: 52340/DIRT SHOP, INC.

Gross: 64240 LBS Scale
Tare: 30280 LBS PreTare
Net: 33960 LBS
Scale: H1

Profile: 5848/US Navy Brac, PMO-W Hunt

Origin	Materials & Services	Quantity
SFR/San Francisco	SOILC/Soil Contaminated	16.98 Tons

Recology
WASTE ZERO

Joseph Snyder

H 14822

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
CA0001019894	1	415-552-1818	002982

GENERATOR

5. Generator's Name and Mailing Address
US Navy BRAC PMO-W (Hunters Point)
1 Avenue of the Palms, Ste. 161
San Francisco, CA 94130 USA
Generator's Phone: 415-743-4713

Generator's Site Address (if different than mailing address)
Hunters Pt Naval Shipyard, Morrell St @ E St
San Francisco, CA 94102 USA

6. Transporter 1 Company Name: 18 Trucking — U.S. EPA ID Number: CAR000184788

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Recology Hay Road Landfill
6426 Hay Rd.
Vacaville, CA 95687 USA
U.S. EPA ID Number: CAD982042475
Facility's Phone: 707-678-4716

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-hazardous waste, solid (soil with Chromium and Nickel)	1	DT	16	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Generator contact: D. DeLong, E CIV OASN(EI&E), BRAC PMO West Douglas.delong@navy.mil Tracking #:
Wear proper PPE when handling waste. Wt tix and certs of disposal req. by Generator. Box #3-18 Triing 24/7 contact #.
Hay Rd. Job #: J#5848

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Doug DeLong — Signature — Month: 9 Day: 20 Year: 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: James Cepole — Signature — Month: 9 Day: 20 Year: 13

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of received materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month: 9 Day: 20 Year: 13

169-BLC-O 6 10498 (Rev. 8/06) TRANSPORTER #1

RECOLOGY HAY ROAD
RECOLOGY HAY ROAD
6426 Hay Road Vacaville, CA 95687
Phone: (707)-678-4718
Truck: 9249
Customer: 52340/DIRT SHOP, INC. License: 230

Profile: 5848/US Navy Brac, PMO-W Hunt

Ticket: 1239338
Date: 8/26/2013
Time: 15:38:40 - 15:38:56

Gross: 92440 LBS Scale
Tare: 33940 LBS PreTare
Net: 58500 LBS
Scale: H1

Origin	Materials & Services	Quantity
SFR/San Francisco	SOILC/Soil-Contaminated	29.25 Tons

Recology™
WASTE ZERO

Joseph Snyder

VMSTR4-LO 9/09 Printed on recycled paper

9F Q4821

H 14823

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number: CAD001019594	2. Page 1 of: 1	3. Emergency Response Phone: 415-552-1818	4. Waste Tracking Number: 002983

5. Generator's Name and Mailing Address

US Navy BRAC PMO-W (Hunters Point)
1 Avenue of the Palms, Ste. 161
San Francisco, CA 94130 USA

Generator's Site Address (if different than mailing address)

Hunters Pt Naval Shipyard, Morrell St @ E St
San Francisco, CA 94102 USA

Generator's Phone: 415-743-4713

6. Transporter 1 Company Name: Sanchez Transport Inc — U.S. EPA ID Number: CAR000175828

7. Transporter 2 Company Name — U.S. EPA ID Number

8. Designated Facility Name and Site Address

Recology Hay Road Landfill
6426 Hay Rd.
Vacaville, CA 95687 USA

U.S. EPA ID Number: CAD982042475

Facility's Phone: 707-678-4718

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
1.	Non-hazardous waste, solid (soil with Chromium and Nickel)	1	DT	16	Y
2.					
3.					
4.					

13. Special Handling Instructions and Additional Information

Generator contact: D. DeLong, E CIV OASN(EI&E), BRAC PMO West Douglas.delong@navy.mil Tracking #:
Wear proper PPE when handling waste. Wt tix and certs of disposal req. by Generator. Box #3-18 Tring 24/7 contact #.
Hay Rd. Job #: J#5848

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Doug DeLong — Signature: [signature] — Month 8 Day 20 Year 13

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Gonzalo Sanchez — Signature: Gonzalo Sanchez — Month 8 Day 20 Year 13

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: [signature] — Signature: [signature] — Month 8 Day 20 Year 13

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

169-BLC-O 6 10498 (Rev. 8/06) COPY

RECOLOGY HAY ROAD
RECOLOGY HAY ROAD
6426 Hay Road Vacaville, CA 95687
Phone: (707)-678-4718
Truck: 9F04371
Customer: 52340/DIRT SHOP, INC.

Profile: 5848/US Navy Brac, PMO-W Hunt

Ticket: 1239343
Date: 8/20/2013
Time: 15:27:48 - 15:44:39

Gross: 81260 LBS Scale
Tare: 30320 LBS Scale
Net: 50940 LBS
Scale: M2

Origin	Materials & Services	Quantity
SFR/San Francisco	SOILC/Soil Contaminated	25.47 Tons

Recology
WASTE ZERO

Joseph Snyder

WMSTR4-LO 9/09 Printed on recycled paper

7928

H 14829

NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	CA0001019694	1	415-562-1818	002989

GENERATOR

5. Generator's Name and Mailing Address
US Navy BRAC PMO-W (Hunters Point)
1 Avenue of the Palms, Ste. 161
San Francisco, CA 94130 USA

Generator's Site Address (if different than mailing address)
Hunters Pt Naval Shipyard, Morrell St @ E St
San Francisco, CA 94102 USA

Generator's Phone: 415-743-4713

(ERRA D-1)

6. Transporter 1 Company Name: 1B TRUCKING — U.S. EPA ID Number: CAL000184788

7. Transporter 2 Company Name — U.S. EPA ID Number:

8. Designated Facility Name and Site Address
Recology Hay Road Landfill
8426 Hay Rd.
Vacaville, CA 95687 USA

U.S. EPA ID Number: CAD982042475

Facility's Phone: 707-678-4718

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Non-hazardous general debris	1	DT	40	Y	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
Generator contact: D. DeLong, E CIV OASN(EI&E), BRAC PMO West Douglas.delong@navy.mil Tracking #:
Wear proper PPE when handling waste. Wt tix and carts of disposal req. by Generator. Box #3-18 Trlng 24/7 contact #.

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Generator's/Offeror's Printed/Typed Name: Doug DeLong — Signature — Month: 8 Day: 20 Year: 13

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: ROBIN FATSEY — Signature — Month: 8 Day: 20 Year: 13

Transporter 2 Printed/Typed Name — Signature — Month — Day — Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month — Day — Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Tom Wilson — Signature — Month: 6 Day: 20 Year: 13

169-BLC-O 6 10498 (Rev. 8/06) TRANSPORTER #1

RECOLOGY HAY ROAD
RECOLOGY HAY ROAD
6426 Hay Road Vacaville, CA 95687
Phone: (707)-678-4718
Truck: 7929
Customer: 52340/DIRT SHOP, INC.

License: 0/57615

Ticket: 1239190
Date: 8/20/2013
Time: 12:10:13 12:12:02

Gross: 59040 LBS Scale
Tare: 32240 LBS PreTare
Net: 26800 LBS
Scales: HL

Origin	Materials & Services	Quantity
SFR/San Francisco	CCDW/General Debris	13.40 Tons

recology™
WASTE ZERO

Terri Wilson

WMSTR4-LO 9/09 · Printed on recycled paper

Final

Record of Decision for Parcel E-2

Hunters Point Naval Shipyard
San Francisco, California

November 2012

Prepared by:
Department of the Navy
Base Realignment and Closure
Program Management Office West
1455 Frazee Road, Suite 900
San Diego, California 92108

Prepared under:
Naval Facilities Engineering Command
Contract Number N68711-05-C-6011

ERRG-6011-0000-0022

Table 6. Remediation Goals for Radionuclides in Soil and Sediment

Radionuclide of Concern	Exposure Scenario	
	Outdoor Worker (pCi/g)	Resident[a] (pCi/g)
Cesium-137	0.113	0.113
Cobalt-60	0.252[b]	0.252[b]
Radium-226	1.0[c]	1.0[c]
Strontium-90	10.8	0.331

Notes: The basis (risk-based) for the remediation goals is presented in Sections 7 and 9 of the radiological addendum.

a = Residential use is not planned for Parcel E-2, but residential goals are proposed as an additional level of protection.

b = Remediation goal for cobalt-60 was revised to support efficient laboratory gamma spectroscopy analysis of soil samples. This revised remediation goal maintains morbidity risks within the EPA-defined acceptable range and permits an exposure level that does not increase the risk of cancer from a potential exposure to cobalt-60.

c = Remediation goal is 1 pCi/g above background per agreement with EPA (established in "Final Basewide Radiological Removal Action, Action Memorandum – Revision 2006, Hunters Point Shipyard, San Francisco, California," dated April 21, 2006), and is consistent with the radiological-related remedies selected in the RODs for Parcels B, G, and D-1 and UC-1. The radium-226 background level for surface soil is 0.633 pCi/g. The radium-226 background level for storm drain and sewer lines is 0.485 pCi/g. The background levels for radium-226 may be reevaluated in the Parcel E-2 RD and are subject to regulatory agency approval.

EPA = U.S. Environmental Protection Agency

pCi/g = picocuries per gram

RD = remedial design

RODs = Records of Decision

Final

Feasibility Study Report for Parcel F

Hunters Point Shipyard
San Francisco, California

April 30, 2008

Prepared for:
Base Realignment and Closure
Program Management Office West
San Diego, California

Prepared by:
Barajas & Associates, Inc.
839 W. Harbor Drive, Suite 1
San Diego, California 92101

Prepared under:
Naval Facilities Engineering Command
Contract Number N68711-03-D-5106
Contract Task Order 004

BAI.5106.0004.0003

Under federal standards, PCBs are not regulated as a hazardous substance under RCRA, but mercury is. As a result, removed sediment must be managed as RCRA hazardous waste if the concentration of mercury exceeds the TCLP requirements when sediments from Parcel F are contaminated with both PCBs and mercury. Off-site disposal facilities must meet the requirement of the CERCLA Off-site Rule.

Off-Site Class II or Class III Landfill Disposal. Sediment waste that would not require Class I landfill disposal may be sent to either a Class II or a Class III landfill. Class II units are more rigorous than Class III because they are constructed to isolate hazardous waste from state waters. The Class II unit is a permitted Subtitle D cell designed with a synthetic liner and leachate collection system. Class III disposal facilities are constructed to separate nonhazardous solid waste and from waters of the State of California.

Designated wastes can be disposed of at Class II landfills that have been approved for containment of the type of waste stream to be disposed of (Cal. Code Regs. tit. 27, § 20210). Designated waste is defined as "nonhazardous waste that consists of, or contains, pollutants that, under ambient environmental conditions at a waste management unit, could be released in concentrations exceeding applicable water quality objectives or that could reasonably be expected to affect beneficial uses of the waters of the state as contained in the appropriate state water quality control plan" (California Water Code § 13173).

Nonhazardous and nondesignated wastes can be disposed of at Class III landfills that have been approved for the specific type of waste stream to be disposed of. Certain contaminated soils, sludge, and industrial wastes can also be disposed of at Class III landfills.

It is anticipated that most material removed from Parcel F would be considered designated waste for disposal at a Class II facility or as alternative daily cover, although some material may be designated as waste for a Class III facility.

3.8.1.1 Effectiveness

Landfill disposal would effectively reduce the risk of exposure to chemicals in sediment at Parcel F. Disposing of contaminated sediments at an off-site landfill removes the chemicals from the aquatic setting, where they could be a hazard to ecological receptors. The contaminated sediment is placed in a landfill, eliminating the pathway from sediment to the environment. Landfill sites are readily available, and costs are comparable to treatment technologies. Therefore, disposal at a Class I, Class II or III landfill would be an effective option.

3.8.1.2 Implementability

Implementability of landfill disposal depends on locating a landfill with adequate space for the contaminated sediments and with the appropriate permits and requirements to accept the contaminated sediments. Class I landfills identified for disposal of the contaminated sediments from Parcel F include the Laidlaw facility in Buttonwillow, California, and Chemical Waste

Management's Kettleman Hills facility in Kettleman City, California. Class II landfills identified for disposal of the contaminated sediments from Parcel F include Altamont Landfill (Livermore, California), Hayroad Landfill (Vacaville, California), and Forward, Inc./Allied Waste (Manteca, California).

Disposal would be easily implemented once a landfill is found to meet the appropriate requirements. Dewatering, transportation, stabilization, and disposal of contaminated sediments in landfills have been widely conducted.

3.8.1.3 Cost

The cost of the off-site Class I landfill process option depends on several factors, such as (1) the trucking distance between HPS and the Class I landfill, and (2) the volume of waste that would require disposal. Out-of-state landfills may offer reduced disposal fees and taxes, as well as the use of rail transportation rather than trucking. Capital costs are high for Class I landfill disposal, but O&M costs are not associated with this process option.

The only treatment required for contaminated sediment to be disposed of in a Class II landfill is dewatering, so the total cost of disposal would vary, depending on the amount of dewatering required and the distance and type of transportation. Aside from dewatering, costs for disposal of contaminated sediments in a Class II landfill would be moderate.

3.8.1.4 Screening Results

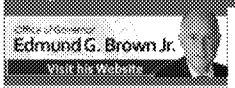
Disposal at a Class I, II, or III landfill must be conducted in conjunction with other process options; thus, they will be considered with excavation and dredging and are retained for further evaluation in this FS Report.

3.8.2 On-Site Disposal and Reuse

On-site disposal and reuse would consist of placement of the removed sediments in the Parcel E-2 landfill, located just north of Area IX/X. Given the expected low concentrations of chemicals in the sediment, it may be possible to use the sediment as landfill cover. The sediment would first be dewatered, then transported and spread and compacted in the existing landfill. Characterization of the sediments would be required prior to placement in the landfill, as discussed in Section 3.7.1.

3.8.2.1 Effectiveness

On-site disposal would effectively reduce the risk of exposure to chemicals in sediment at Parcel F. Disposing of contaminated sediments at an on-site landfill removes the chemicals from the aquatic setting, where they could be a hazard to wildlife. The contaminated sediment would be placed in the Parcel E-2 landfill, eliminating the pathway from sediment to the environment. The landfill is immediately adjacent to Area IX/X and less than 1 mile from Area III. Therefore, disposal at the Parcel E-2 landfill would be an effective option.



- CalEPA
- State and Regional Water Board Map
- Board Priorities
- Laws/Regulations
- Plans/Policies
- Programs
- Decisions Pending and Opportunities for Public Participation

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Land Disposal Program

WASTES ALLOWED FOR DISCHARGE AT DISPOSAL FACILITIES

This page contains updated lists provided by the Regional Water Quality Control Boards (RWQCBs) of open, commercial Class I, II, and III landfills and the types of wastes accepted at each. It includes a partial listing of the other types of open, commercial disposal sites, such as surface impoundments and land treatment units. Class I sites may accept hazardous and nonhazardous wastes. Class II sites may accept "designated" and nonhazardous wastes, and Class III sites may accept nonhazardous wastes. The wastes accepted at each facility are indicated by a "•" in the space. If the space is blank, the waste is not accepted at that facility. The waste categories shown on the list are in addition to the typical wastes accepted by these facilities. "Unclassified" sites accept inert wastes only.

The lists include the facility contact's telephone number. It is imperative you contact the facility prior to arriving with waste. The landfill operator may choose not to accept waste even if permitted in Waste Discharge Requirements. Also note that the Solid Waste Facility Permit issued by the local enforcement agency and the Integrated Waste Management Board may not allow discharge of certain wastes.

If you have any other questions, please contact the facility or the appropriate RWQCB.

Region 1 - Waste Acceptance List (2011 update)

Region 2 - Waste Acceptance List (2014 update)

Region 3 - Waste Acceptance List (2014 update)

Region 4 - Waste Acceptance List (2014 update)

Region 5 - Waste Acceptance List (updated on (2011 update)

Region 6 - Waste Acceptance List (2014 update)

Region 7 - Waste Acceptance List (2002 update)

Region 8 - Waste Acceptance List (2014 update)

Region 9 - Waste Acceptance List (2014 update)

CENTRAL VALLEY REGIONAL WATER QUALITY CONTROL BOARD (5) WASTE ACCEPTANCE LIST

S = SACRAMENTO OFFICE
F = FRESNO OFFICE
R = REDDING OFFICE

Sacramento Watershed -- Steve Rosenbaum (916-464-4631)
San Joaquin Watershed -- Victor Izzo (916-464-4626)
Landfills -- Dane Johnson (559-445-5525)
Surface Impoundments -- Shelton Gray (559-445-5508)
Karen Clementsen (530-224-4852)

FACILITY NAME	OFFICE	FACILITY PHONE NUMBER	COUNTY	CLASS	TYPE	ASB-ESTOS	AUTO SHRED	DRILLING MUDS	WASTE WATER/ SLUDGE	ASH	SEPTAGE	TREATED WOOD WASTE	DESIG-NATED SOLIDS	DESIG-NATED LIQUIDS	SOILS WITH PETROLEUM	PESTICIDE CONTAINERS	COMF LIN CEL
ALTAMONT SANITARY LANDFILL	S	925-449-6349	ALAMEDA	II, III	LF, SI	+	+		+	+		+	+	+	+		·
ALTURAS LANDFILL	R	530-233-6403	MODOC	III	LF						+						
ANDERSON SOLID WASTE INC.	R	530-347-5236	SHASTA	III	LF	+			+	+		+					·
AQUA CLEAR FARMS, INC	S	707-374-2559	SOLANO	II	LF, SI			+									
AVENAL LANDFILL	F	559-386-5766	KINGS	III	LF												
BILLIE WRIGHT LANDFILL	F	209-385-7388	MERCED	III	LF												
BLACK BUTTE	R	530-842-8250	SISKIYOU	III	LF												
CHEM WASTE MANAGEMENT - KETTLEMAN	F	559-386-6288	KINGS	I	LF	+	+	+	+	+	+		+	+	+	+	·
CHEM WASTE MANAGEMENT - KETTLEMAN	F	559-386-6288	KINGS	I	SI			+	+		+			+			·
CHESTER LANDFILL	R	530-283-6268	PLUMAS	III	LF												
CLOVIS CITY LANDFILL	F	559-324-2614	FRESNO	III	LF												·
COLUSA COUNTY NO 2, STONYFORD	S	916-458-5186	COLUSA	III	LF												
EAST LAKE LANDFILL	S	707-262-1760	LAKE	III	LF	+			+			+		+			·
FINK ROAD LANDFILL (LF-2)	S	209-837-4800	STANISLAUS	III	LF, SI	+											·
FINK ROAD LANDFILL (LF-3)	S	209-837-4800	STANISLAUS	II	LF, SI					+							·
FOOTHILL SANITARY LANDFILL	S	209-468-3066	SAN JOAQUIN	III	LF, LT												·
FORWARD, INC	S	800-204-4242	SAN JOAQUIN	II, III	LF, SI	+	+		+	+	+	+	+	+	+		·
FRESNO COUNTY - AMERICAN AVENUE	F	559-262-4295	FRESNO	III	LF				+								·
FULTON RECLAMATION	S	530-865-3680	GLENN	III	SA			+									
GLENN COUNTY LANDFILL	S	530-934-6530	GLENN	III	LF												
GOPHER HILL	R	530-283-6268	PLUMAS	III	LF												
H.M. HOLLOWAY GYPSUM MINE RECL.	F	661-797-2320	KERN	II, III	LF		+	+		+			+				
HAY ROAD LANDFILL	S	707-678-4718	SOLANO	II, III	LF, LT	+				+		+	+		+		·
HIGHWAY 59 LANDFILL	F	209-285-7388	MERCED	III	LF				+			+					·
KERN COUNTY - BAKERFIELD METRO	F	661-862-8900	KERN	III	LF	+	+		+			+					·
KERN COUNTY - SHAFTER-WASCO LANDFIL	F	661-862-8900	KERN	III	LF				+								·
KERN COUNTY - TAFT LANDFILL	F	661-862-8900	KERN	III	LF												
L & D LANDFILL	S	916-383-9420	SACRAMENTO	II, III	LF	+											·
MADERA COUNTY - FAIRMEAD LANDFILL	F	559-665-3099	MADERA	III	LF					+							·
NEAL ROAD	R	530-538-7681	BUTTE	II, III	LF, SI	+			+		+	+					
NORTH COUNTY LANDFILL	S	209-468-3066	SAN JOAQUIN	III	LF							+					·
OSTROM ROAD LANDFILL	S	530-743-6321	YUBA	II	LF, SI, LT	+			+		+	+	+		+		·
PORTOLA LANDFILL	R	530-283-6268	PLUMAS	III	LF												
RED BLUFF LANDFILL	R	530-528-1102	TEHAMA	III	LF												
ROCK CREEK LANDFILL	S	209-754-6403	CALAVERAS	II	LF				+	+	+	+	+	+	+		·
SACRAMENTO COUNTY - KIEFER LANDFILL	S	916-481-1816	SACRAMENTO	III	LF	+						+				+	·
SAFETY-KLEEN - BUTTONWILLOW	F	800-544-7199	KERN	I	LF, SI			+	+				+	+	+		·
SANIFILL INC. - McKITTRICK SITE	F	661-762-7366	KERN	II	LF, SI			+	+		+		+	+	+		·
SIERRA COUNTY LOYALTON LANDFILL	S	530-289-3201	SIERRA	III	LF					+							
TULARE COUNTY - TEAPOT DOME SITE	F	559-733-6291	TULARE	III	LF					+							
TULARE COUNTY - VISALIA LANDFILL	F	559-733-6291	TULARE	III	LF					+							
TULARE COUNTY - WOODVILLE DISPOSAL	F	559-733-6291	TULARE	III	LF					+							·
UC DAVIS SANITARY LANDFILL	S	530-754-5977	YOLO	III	LF												
WEST CENTRAL LANDFILL	R	530-225-5661	SHASTA	III	LF				+			+					·
WESTERN REGIONAL LANDFILL	S	916-543-3960	PLACER	III	LF	+			+			+					·
WESTWOOD LANDFILL	R	530-252-1273	LASSEN	III	LF												
YOLO COUNTY CENTRAL LANDFILL	S	530-666-8852	YOLO	II, III	LF, SI				+					+			·

LF = Landfill
LT = Land Treatment Unit
SA = Soil Amendment
SI = Surface Impoundment
U = Unclassified